CLAIMS

1. An arrangement in connection with a feedback control system connected to an anaesthesia machine, the arrangement comprising a controllable device (10), a measuring device (7), a controlling device (9) and a user interface by which the controlling device (9) can be monitored by means of set values, whereby the measuring device (7) is adapted to measure a measuring value (8) from a measuring point, which measuring value is dependent on the operation of the controllable device and the controlling device (9) is adapted to monitor the controllable device (10) on the basis of the measuring values and set values, **characterized** in that the arrangement comprises means (15a, 15b, 15c) adapted to feed a reference signal (16) to the measuring device (7) periodically and that the controlling device (9) is adapted to compare the measuring value (18) obtained from the measuring device (7) on the basis of the reference signal with the real an known reference value (17) of the reference signal and adapted to take a safety measure when the measuring value (18) obtained on the basis of the reference signal and the real and known reference value (17) differ substantially from each other.

2. An arrangement as claimed in claim 1, **characterized** in that a safety measure is the disconnection of the control of a controllable device.

3. An arrangement as claimed in claim 1, **characterized** in that a safety measure is the opening of a safety valve.

4. An arrangement as claimed in claim 1, **characterized** in that a safety measure is the giving of an alarm signal.

5. An arrangement as claimed in claim 1, **characterized** in that the controllable device (10) comprises a gas mixer and/or ventilator used in patient care, and that the measuring device (7) is a gas monitor and that the controlling device (9) is a separate controller.

6. An arrangement as claimed in claim 1, **characterized** in that the reference signal (16) is a gas sample.

7. An arrangement as claimed in claim 6, **characterized** in that means for feeding the reference signal (16) comprise a selector valve (15a) adapted to periodically change a breathing gas sample (8) flowing to the gas monitor for a gas sample used as a reference signal (16).

8. An arrangement as ~~claimed~~ in claim 6 or 7, **characterized**

Subas

as

in that the gas sample is a fresh gas sample.

9. An arrangement as claimed in ~~claim~~ 7, **characterized** in that backup valves (15b, 15c) are adapted to supervise the operation of the selector valve (15a).